



## Is my catch safe to eat?

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What you need to know about mercury  
and PCBs in Montana's sport fish



*Montana Fish,  
Wildlife & Parks*



**MONTANA**  
Department of Public Health & Human Services

## What are “sport fish consumption guidelines?”

The Montana Sport Fish Consumption Guidelines provide recommendations on the amount and type of sport fish to eat, how to prepare your catch to minimize health risks, and what special precautions should be taken by high-risk individuals. The guidelines also include a detailed chart that lists all waters in the state that have been tested for the presence of certain environmental contaminants, and provide fish consumption recommendations specific to these waters. Although the guidelines are not regulatory standards, by using them you'll help ensure that the fish you catch can safely be a part of your diet.

The Montana Department of Public Health and Human Services (DPHHS) provides additional information on Montana contaminant levels and fish consumption. This information is available on the public DPHHS website at:

[www.dphhs.state.mt.us/hpsd/pubheal/healsafe/pdf/fish.pdf](http://www.dphhs.state.mt.us/hpsd/pubheal/healsafe/pdf/fish.pdf)

The guidelines are generally designed to protect pregnant women, women of childbearing age, children, and anglers who regularly consume fish caught in Montana waters in larger quantities over long periods of time.

## What are the health benefits of eating fish?

When properly prepared, fish provide a diet high in protein and low in saturated fats. Many researchers suggest that eating a half-pound of fish each week is helpful in preventing heart disease.

Almost any kind of fish can have real health benefits if eaten as an alternative to a high-fat protein in your diet. You can get the health bene-

fits of fish, and reduce unwanted contaminants, by following these consumption guidelines and cleaning and cooking your catch in ways that reduce fatty tissue.



# Reduce your health risk

■ **Keep smaller fish for eating.** Smaller and younger fish accumulate fewer contaminants than larger, older fish. Predatory fish, such as walleye and lake trout, often accumulate more contaminants because they eat many smaller fish.









If contaminants are found in smaller panfish such as bluegill, crappies, brook trout, and yellow perch, the levels are usually low.

■ **Clean and cook your fish properly.** Certain contaminants build up in a fish's fat deposits and just underneath the skin.

To reduce contaminant levels:

- Fillet the fish
- Remove the skin.
- Cut away the fatty tissue (back, side, and belly fat).
- Bake or broil the trimmed fish on a rack, or grill it, so remaining fat drips away.

■ **HIGH-RISK INDIVIDUALS**—Children age six and younger, nursing mothers, and women who are pregnant, or women who might become pregnant, are at greatest risk of adverse health effects. Such persons should be more conservative in their fish-eating habits. The guidelines below apply to fish species in waterbodies not listed on the consumption charts:

 <b>AVOID</b>	 One 4- to 6-oz. meal per week	  Up to two 6-oz. meals per week	    Up to four 6-oz. meals per week
Lake trout, northern pike, and walleye over 15 inches in length	Lake trout, northern pike, and walleye less than 15 inches in length	Perch, brown trout, lake trout	Rainbow, cutthroat, brook trout, salmon, mountain whitefish, sunfish, grayling

For more information, call the Montana Food & Consumer Safety Section at (406) 444-5306 for a free copy of *A Guide to Healthy Eating of the Fish You Catch*.

## What contaminants are found in Montana fish?

**Mercury** is a widespread and naturally occurring element that concentrates in many soils and rocks. Mercury may also enter Montana waters via household refuse, batteries, mining and industrial wastes, and from burning fossil fuels. Once in a lake, mercury is converted to methyl mercury by bacteria and other processes. Fish absorb methyl mercury into their tissues from their food and from water as it passes over their gills. There is no method of cooking or cleaning fish that will reduce the amount of mercury in a meal.

**Polychlorinated Biphenyls (PCBs)** are a group of man-made chemicals once used as lubricants and coolants in a variety of industrial and electrical products and applications, and in ink and paint additives. The manufacture of PCBs in the United States was banned in 1977, yet trace levels of PCBs remain in the environment. Everyone is exposed to some PCBs, as they are found everywhere. Fish absorb PCBs from water, sediments, and food. PCBs concentrate in the fat of fish, as well as other animals. Cleaning and cooking a fish to remove fat will lower the amount of PCBs in a fish meal.

**Other metals, pesticides, and organic compounds** are present in Montana's fish, but it has not been established that there is a health concern at this time.

## What are the health risks of eating contaminated fish?

PCBs and methyl mercury build up in body tissue over time. It may take months or years of regularly eating contaminated fish to accumulate levels that could become a health concern.

**Methyl mercury** Our body can safely metabolize small amounts of consumed methyl mercury, but larger amounts may cause damage to the nervous system. It most severely affects developing fetuses in pregnant women. It is recommended that women of childbearing age avoid those species of fish and seafood known to contain high concentrations of mercury. The FDA currently recommends against eating shark, swordfish, king mackerel, and tilefish.

**PCBs** Dietary exposure to PCBs has been linked to infant development problems in children whose mothers were exposed to PCBs before becoming pregnant. The consumption advice for PCBs is intended to protect children from developmental problems and damage to their immune system. In addition, PCBs are known to cause cancer in laboratory animals and may cause cancer in humans.

# Montana Sport Fish Consumption Chart



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Montana Fish, Wildlife & Parks has sampled and analyzed fish for contaminants from many of Montana's lakes and streams. Use this chart as a guideline to determine the recommended number of meals of fish you can eat per month, based on fish size and measured concentrations of contaminants found in the fish. In the chart, **M**=adult men and **WC**=women of child-bearing age and children.

Montana Department of Public Health and Human Services meal guidelines are based on an 8-ounce serving (weight before cooking) for a 150-pound man, and a 6-ounce serving for women of childbearing age and children age six and younger.

## How to use this chart

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1. Determine the species and length of your fish.
2. Refer to the Sport Fish Consumption Chart to find the lake or river in which the fish was caught. Lakes and rivers are listed in alphabetical order.
  - An open blue icon  indicates the fish are safe to eat in unlimited quantities.
  - A blue number indicates the number of meals per month one can safely consume.
  - A black icon  indicates the fish are not recommended for consumption.
  - A blank cell means that the species and size category have not been analyzed.
3. If your fishing location or species isn't listed in the chart, simply follow the "Reduce your health risk" guidelines.

### ADDITIONAL INFORMATION















































































For information on the collection and laboratory testing of fish in Montana, call Montana Fish, Wildlife & Parks at (406) 444-2449. Additional copies of this guide can be obtained at all Montana FWP regional offices or outlets where fishing licenses are sold. You can view an on-line version of this brochure, with updates to the data at:

[fwp.mt.gov/fishing](http://fwp.mt.gov/fishing)

Contaminant: **Hg** = Mercury, **PCBs** = Polychlorinated Biphenyls

Location	Species	Person	Size (Length in inches)							Contaminant
			6-10	10-14	14-18	18-22	22-26	26-30	30+	
Fort Peck Reservoir	Chinook salmon	M						5	5	Hg
		WC						2	2	Hg
Fresno Reservoir	Walleye	M			10	3				Hg
		WC	7	7	4	1				Hg
Georgetown Lake	Brook trout	M								
		WC		12	12	12				Hg
	Kokanee salmon	M								
		WC								
Hauser Reservoir	Kokanee salmon	M								
		WC			10	6				Hg
	Rainbow trout	M								
		WC	12	12	12					Hg
	Yellow perch	M								
		WC		8						Hg
Hebgen Lake	Brown Trout	M			10	4	4			Hg
		WC	6	6	4	1	1			Hg
Holter Reservoir	Kokanee salmon	M				7				Hg
		WC		12	12	3				Hg
	Walleye	M		11	11	10	6	6		Hg/PCBs
		WC		4	4	4	3	2		Hg/PCBs
	Rainbow trout	M								
		WC								
	Yellow perch	M		10						Hg
		WC	6	4						Hg
Island Lake	Yellow perch	M	12							Hg
West of Kalispell		WC	5							Hg
Lake Frances	Walleye	M		6	3	3				Hg
		WC		2	1	1				Hg
Lake Koocanusa	Burbot	M				11				Hg
		WC	12	12	11	4				Hg
	Kokanee salmon	M								
		WC	9	9	10					Hg
	Rainbow trout	M								
		WC								
Lake Mary Ronan	Rainbow trout	M								
		WC								
	Kokanee salmon	M								
		WC	7	7						Hg
Leigh Lake	Brook trout	M								
Cabinet Mountains		WC	10							Hg
Martinsdale Reservoir	Brown trout	M				10	10	10		Hg
		WC	10	10	6	4	4	4		Hg

# Montana Sport Fish Consumption Chart

Location	Species	Person	Size (Length in inches)							Contaminant
			6-10	10-14	14-18	18-22	22-26	26-30	30+	
Big Spring Creek	Rainbow trout	M								PCBs
Above Hwy 191 bridge		WC								PCBs
Catch and release only	Brown trout	M								PCBs
		WC								PCBs
Big Spring Creek	Rainbow trout	M	1	1	1	1	1			PCBs
Below Hwy 191 bridge		WC	1	1	1	1	1			PCBs
	Brown trout	M	1	1	1	1	1			PCBs
		WC	1	1	1	1	1			PCBs
Bighorn Reservoir	Walleye	M			5	3	2	1		Hg
		WC	8	6	2	1	1			Hg
Bynum Reservoir	Walleye	M	7	7	5	3				Hg
		WC	3	3	2	1				Hg
Canyon Ferry	Yellow perch	M								
		WC	10	6						Hg
	Burbot	M								
		WC	11	8	6					Hg
	Walleye	M				8	6	5		Hg/PCBs
		WC	12	8	6	3	2	2		Hg/PCBs
	Rainbow trout	M								
		WC		11	11	8				Hg
Clark Canyon	Rainbow trout	M								
		WC		11	11	8				Hg
	Burbot	M								
		WC								
Clear Lake	Brook trout	M								
South of Superior		WC								
Cooney Reservoir	Rainbow trout	M								
		WC								
	Walleye	M	11	9	8	7	7	7		Hg
		WC	4	3	3	3	3	3		Hg
Crystal Lake	Cutthroat trout	M								
Tobacco Root Mountains		WC	9	7	7					Hg
Dailey Lake	Yellow perch	M								
		WC								
	Walleye	M								
		WC								
Flathead Lake	Lake trout	M			11	6	6	3	1	Hg/PCBs
		WC			4	3	3	1	1	Hg/PCBs
	Lake whitefish	M								
		WC	10	10	6	5				Hg/PCBs
Fort Peck Reservoir	Walleye	M		10	8	8	4			Hg
		WC		4	3	3	1			Hg
	Northern pike	M				8	8	7	5	Hg
		WC				3	3	2	2	Hg
	Lake trout	M						10	5	Hg
		WC						4	2	Hg

Location	Species	Person	Size (Length in inches)							Contaminant
			6-10	10-14	14-18	18-22	22-26	26-30	30+	
Martinsdale Reservoir	Rainbow trout	M								
		WC	10	10	8					Hg
Milltown Reservoir	Northern pike	M								
		WC								
Nelson Reservoir	Walleye	M					4			Hg
		WC			8	7	1			Hg
	Northern pike	M								
		WC	8	8	8	8	7			Hg
Park Lake	Arctic grayling	M								
South of Helena		WC								
	Cutthroat trout	M								
		WC								
Prickly Pear Creek	Brown trout	M								
		WC								
	Rainbow trout	M								
		WC								
Seeley Lake	Rainbow trout	M			8					PCBs
		WC			8					PCBs
	Mountain whitefish	M								
		WC		12						Hg
Silver Creek (N. of Helena)	Cutthroat trout	M								Hg
Catch and release only		WC								Hg
Swan Lake	Kokanee salmon	M								
		WC								
	Bull trout	M								
		WC	12	11	10	11				Hg
	Northern pike	M					12	8	5	Hg
		WC					5	3	2	Hg
Tenmile Creek	Brown trout	M								
West of Helena		WC								
	Rainbow trout	M								
		WC								
	Brook trout	M								
		WC								
Tiber Reservoir	Walleye	M	12	7	4	3				Hg
		WC	4	3	2	1				Hg
Tongue River Reservoir	Walleye	M			10	10	6			Hg
		WC	9	8	4	4	2			Hg
Upper Cold Lake	Cutthroat trout	M								
Mission Mountains		WC								
Whitefish Lake	Lake trout	M			11	8	6			Hg
		WC			4	3	2			Hg/PCBs
	Northern pike	M						8		Hg
		WC						3		Hg
Willow Creek Reservoir	Rainbow trout	M								
		WC								